United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

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USE OF PROBE SAMPLES AS AN ALTERNATE STANDARD REFERENCE FOR TESTING DIVERTER-TYPE SAMPLING SYSTEMS

1. PURPOSE

This program notice announces that probe sampling may be used as a standard reference method for testing diverter-type (D/T) mechanical sampling systems for authorization for official use at railcar loading facilities. Additionally, this notice rescinds the agency's policy for granting an exemption for a mechanical sampler grain test as stated in Policy Bulletin Board Memo # 200, "Mechanical Sampler Grain Test Exemptions", dated January 8, 2004.

2. BACKGROUND

Any new D/T sampling system, any D/T sampling system which has been subjected to major repairs or alterations, and any D/T sampling system which has had its authorization suspended more than 6 months for non-use must be tested before an authorization for official use may be issued. The test is performed by sampling 5 test lots using both the D/T sampler under test and a "standard" sampling method, then comparing the factors determined on the samples from the system under test (test results) to the factors determined on the standard samples (standard results).

The standard reference sampling methods listed in the Mechanical Sampling Systems Handbook include (1) a pelican sampler at the end of the loading spout, (2) a "standard" diverter-type (primary) sampler, (3) an Ellis cup sampling at the end of the last conveyor belt before the loading spout, and (4) an authorized (tested) diverter-type sampling system at either origin or destination.

High flow rates generated at some railcar loading facilities make Ellis Cup and pelican sampling duties hazardous to official personnel performing sampling functions. Additionally, systems with wide spouting designs tend not to leave a concentration of foreign material (spout line) in the railcar compartments, and lend to better comparisons between a D/T sample and a probe sample on the same lot of grain. Therefore, FGIS has approved the use of a probe sample as a standard reference for domestic facilities.

3. POLICY

Policy Bulletin Board Memo #200 provided instructions for granting an exemption for initial authorization to use a D/T sampling system at domestic loading facilities. Although the exemptions policy worked in some instances, approvals were being delayed because detailed information needed to approve sampling systems was not being received and reviewed in a timely manner.

Therefore, FGIS is rescinding the exemption policy and mandating that all mechanical sampling systems must be successfully tested against a standard sampling reference method in order to obtain authorization to use the D/T sampling system in an official capacity.

Pelican sampling at the end of the loading spout is still the preferred method, but probing or one of the other standard sampling methods listed in section 5.1.f.(1)(a) of the Mechanical Sampling Systems Handbook may be substituted if, in the opinion of the personnel performing the test, pelican sampling would be hazardous or would not result in a representative sample.

When standard samples are obtained by probing railcars, each test lot shall consist of a completely filled railcar. For the D/T system to pass, the average difference obtained by subtracting the standard results from the test results must be within an allowable tolerance of +10 percent to -15 percent of the standard result mean. The larger negative tolerance is to correct for a historical tendency of probe derived samples to yield higher estimates of machine separable factors such as broken corn and foreign material. On the test form (FGIS-930), record both a + and - tolerance (e.g., if the average standard result is 0.8, record the tolerance as +0.08/-0.12). The allowable tolerance remains ±10 percent when standard samples are obtained by other methods.

4. APPLICATION

The use of the probe samples for authorization purposes is applicable only to railcar loading facilities and involves new D/T sampling systems; existing sampling systems which have undergone major repairs or modifications; and sampling systems which have had their authorization suspended more than 6 months for non-use.

5. RESPONSIBILITIES

Official agencies/field offices are responsible for testing D/T sampler systems under their jurisdiction and for selecting the appropriate standard sampling method.

6. FILING INSTRUCTIONS

Retain a copy of this notice with the Mechanical Sampling Systems Handbook until this information is incorporated into the handbook.

7. QUESTIONS

Direct any questions to James McLaurin at 816-891-0479 or james.h.mclaurin@usda.gov or Larry Engebretson at 816-891-0467 or larry.r.engebretson@usda.gov

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